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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/731,004

12/06/2000

Fumitoshi Sato

P/1071-1160

8848

7590

04/05/2004

Keating & Bennett, LLP
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EXAMINER

KINKEAD, ARNOLD M

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 04/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/731,004

Applicant(s)

SATO, FUMITOSHI

Examiner

Arnold M Kinhead

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE 03-02-04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03-02-04, 2/10/04</u> . | 6) <input checked="" type="checkbox"/> Other: <u>IDS 02-12-03 duplicate</u> . |

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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 03-02-04 (R.C.E.and IDS) has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

I. Claims 1 -14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis(US 5,748,051 of record) in view of Mitsubishi Electric Corp(JP-3-066213, cited by applicant) and further in view of Razavi(RF Microelectronics,1998 of record).

The reference by Lewis discloses a microwave oscillator(see figure 2, w/o varactor). The amplifier being an NPN transistor with emitter coupled to the resonance element(207,301) forming a band-pass filter for low phase noise output. In col. 3, lines

14-57, describes a positive feedback with the resonance circuit, see figure 3 for the general feedback circuit. In col. 7, it is noted that art recognized equivalent resonator elements, such as microstrip and stripline (dielectric elements) are possible within the resonator for operation in the microwave frequency range. Note that the amplifier circuit includes peripheral elements such as power supply lines and ground lines connections. Input(91) and output(95) terminals are shown, power supply terminals including ground terminals are inherent for operation. The resonant circuit(207,301...) connected in part between the emitter and ground of the amplifier.

The reference does not show a resonant filter for providing an asymmetrical bandpass transfer function with the 3db bandwidth as claimed. Lastly, a MMIC type construction is not mentioned for the amplifier and resonance circuit.

The microwave oscillator as shown in the reference would be fabricated, as notoriously well known in the art, with conventional monolithic microwave integrated circuit techniques as a simple matter of design consideration, well within the level of skill for one of ordinary skill in the art, especially for the packaging benefits in the RF market. Support for this is reflected in the Mitsubishi reference, albeit in Japanese, see figures 5a, and 6; the MMIC circuit shown in figure 5a on a substrate, such as a resin or ceramic type, (art recognized equivalent type substrate material) for MMIC components. In figure 6, and asymmetric type 3dB bandwidth transfer function is shown. The use of 3db type bandwidth design is conventional and well within the level of skill. This is supported by Razavi, pp214-218, showing the 3db bandwidth design for the reduction of phase noise.

In light of the above it would have been obvious for one of ordinary skill in the art to have recognized that the microwave oscillator of Lewis could be designed with various conventional resonant elements as noted above, to select a particular

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frequency(asymmetric 3db band) as suggested by the Mitsubishi reference figure 6 and Razavi for reducing phase noise in the specific frequency band of interest.

Response to Arguments

1. Applicant's arguments filed 11-21-02 have been fully considered but they are not persuasive. The examiner has considered applicant' s concern that the reference by Razavi does not suggest the asymmetrical bandpass transfer function with the 3dB bandwidth, however, the examiner was relying on this to show in general how the resonant circuits of the other references have a 2 sided 3dB bandwidth to define the Q of the resonant tank and thus it would have been well within the skill for one of ordinary skill in the art to define the particular bandpass characteristics, symmetrical or otherwise.

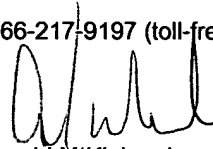
Further support for asymmetry is now suggested by Mitsubishi reference.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnold M Kinhead whose telephone number is 571-272-1763. The examiner can normally be reached on Mon-Fri, 8:30 am -5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner' s supervisor, Robert Pascal can be reached on 571-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Arnold M Kinkead

Primary Examiner

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Arnold Kinkead

April 01,2004